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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,253	07/29/2003	Gi Heon Kim	123034-05004829	5432

43569 7590 07/10/2006

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EXAMINER
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SASTRI, SATYA B

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/628,253	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Satya B. Sastri	<b>Art Unit</b> 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/29/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to communication filed on May 2, 2006. *Claims 1-12* are now pending in the application.
2. Applicant's response that the composition and method of encapsulation are a single invention are not found persuasive. As mentioned in the restriction requirement, the method of encapsulation may be carried out with a materially different composition other than one having pentaerythritol containing units. It is the examiner's position that since more than one invention is the subject matter of the claims, the search is a burden and thus, restriction is deemed proper and made FINAL. This application contains claims 7-12 drawn to an invention nonelected with traverse. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### *Specification*

3. The disclosure is objected to because of the following informalities: The spelling of "pentaerythrithol" is inconsistent. On page 3, it is spelt as "pentaerythritol" while on pages 4-5, it is spelt as "pentaerythrithol". Applicants are requested to correct the specification to provide a consistent spelling, i.e. "pentaerythritol".

In the monomers represented by formulae I and II, the various R groups listed are devoid of double bonds (corresponding to an acrylate group).

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On pages 5 and 6, it is unclear if the material comprises calcium or alkali metal in the elemental form or as a compound and what alkali metals are included in the composition.

On page 8, line 17, a typographical error is noted in the viscosity value.

On page 8, line 4, it is unclear as to what Alq3 refers to.

On page 8, line 9, the use of trademark is noted (HSP118). It should be capitalized wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

The specification does not provide support for the use of magnesium as the water absorbent recited in claims 4-6.

### ***Claim Objections***

4. Claims 1, 2, 4-6 are objected to because of the following informalities:

In claim 1, lines 3 and 4, the spelling “pentaerythrithol” is to be replaced by “pentaerythritol”.

In the monomers represented by formulae I and II in claim 1, the various R groups listed are devoid of double bonds (corresponding to an acrylate group).

In line 10 of claim 1, the various R groups are to be separated by a comma.

In line 17 of claim 1, “remainings are –CH<sub>2</sub>OH” may be replaced by the phrase “remainder of the groups are –CH<sub>2</sub>OH”.

In claim 2, in line 3, “tetra-polymers” is to be replaced by “tetra polymer”. In line 4, monomer is to be changed to “monomers”. Additionally, it is noted that the last line of claim 2 includes “following formula I or II” with no structures following the text. Applicants may either repeat the structures of claim 1 in claim 2 or appropriately amend to indicate that the structures of claim 1.

Claims 4-6 are objected to for use of the phrase “as claimed in one of the claim”. It is unclear if the claims are intended to be multiple depended claims.

Appropriate corrections are required.

#### ***Claim Rejections - 35 USC § 112***

5. ***Claims 4-6*** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of the instant claims is vague because it is not clear if the material comprises magnesium or alkali metal in the elemental form or as a compound and as to what alkali metals are included.

#### ***Claim Rejections - 35 USC § 102 and 103***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. ***Claims 1-3*** are rejected under 35 U.S.C. 102(b) as anticipated by Russel (US 4,371,566).

Prior art to Russel discloses an actinic radiation curable coating composition comprising a pentaerythritol-based polyacrylate or polymethacrylate such as pentaerthritol tetraacrylate, a vinyl chloride-vinyl acetate-containing polymer which may be applied to a substrate and subsequently cured by exposure to radiation (abstract). The cured product in the prior art must include a poly(pentaerythritol-based polyacrylate). As a substrate, a variety of polymeric materials are listed and the final coated product may find use in electronic devices (column 3, lines 34-46).

With regard to the limitation “for thin film encapsulating...” in the claim language, it is the examiner’s position that is an intended use of the material comprising poly(pentaerythritol-based polyacrylate). With respect to the instant claims, the intended use language must result in a structural difference to patentably distinguish over the prior art. If the prior art structure or composition is capable of performing the intended use, then it meets the claim. MPEP 2112.02.

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9. **Claim 1** is rejected under 35 U.S.C. 102(e) as anticipated by Ding et al. (US 6,673,385 B1).

Prior art to Ding et al. concerns polymeric coatings for stents by applying a prepolymer or a combination of prepolymer to the stent and initiating polymerization to form a polymeric coating (abstract). The polymer forming the coating may be selected from poly(glycol methacrylate), poly(methyl methacrylate), poly(ethyl methacrylate), poly(pentaerythritol tetraacrylate) etc. (column 2, lines 50-65, claim 1). “--- when the species is clearly named, the species claim is anticipated no matter how many other species are additionally named.” Ex parte A, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990).

10. **Claims 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Russel (US 4,371,566). in view of Chung et al. (US 4,478,876).

Prior art to Russel is presented above in paragraph 8 and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not explicitly teach the inclusion of silica gel or zeolite in the coating compositions.

Secondary reference to Chung discloses process of coating with a abrasion resistant curable composition comprising silicon dioxide in the form of silica (silica). A variety of polyfunctional acrylic monomers are cured by radiation curing (table 1). Coating compositions comprising colloidal silica with specific polyfunctional acrylic monomers provide durable UV cured coatings which adhere tenaciously to plastic substrates (column 4, lines 15-30). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the

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invention was made prepare the aqueous compositions of Lions et al. by miniemulsion process and thereby obtain the instant invention.

It is noted that the functional equivalence of colloidal silica and silica gel is alluded to in the prior art disclosure (column 1, lines 65-68).

### *Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (571) 272 1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
SATYA SASTRI

July 3, 2006

  
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